

Georgetown Writing Solutions

3700 O St NW, Washington, D.C. 20057

California Seismic Safety Commission Report



Prepared by Jerod Sun and Gavin Ramm, 2019



CONTENTS

Overview2

Current Layout.....4

Recommendation # 1.....5

Recommendation # 2.....8

Recommendation # 3.....9

Revision Sample11

Summary and To Do List12

About Us.....13

OVERVIEW

Executive Summary

Earthquakes are a constant and critical threat in the state of California. That is why the state's premier organization for earthquake safety, the California Seismic Safety Commission (SSC), is crucial in informing the general public about disaster preparation.

One of the most important resources provided by the SSC is the webpage "[What to do After an Earthquake](#)." As the highlighted search result for "after earthquake," the webpage is one of the most accessible tools for citizens affected by these disasters.

This report provides recommendations to improve the usability of the webpage and presentation of information for disaster victims. We follow plain writing principles with models and mocks of revised webpages.

Our Target Audience

We anticipate two primary audiences: those who have recently been affected by an earthquake and those who wish to prepare for a future earthquake.

Earthquake Preparer

The earthquake preparer wants to learn about the necessary steps to take after a disaster. They have time to patiently parse the resource and are interested in further reading on disaster preparation.

Earthquake Victim

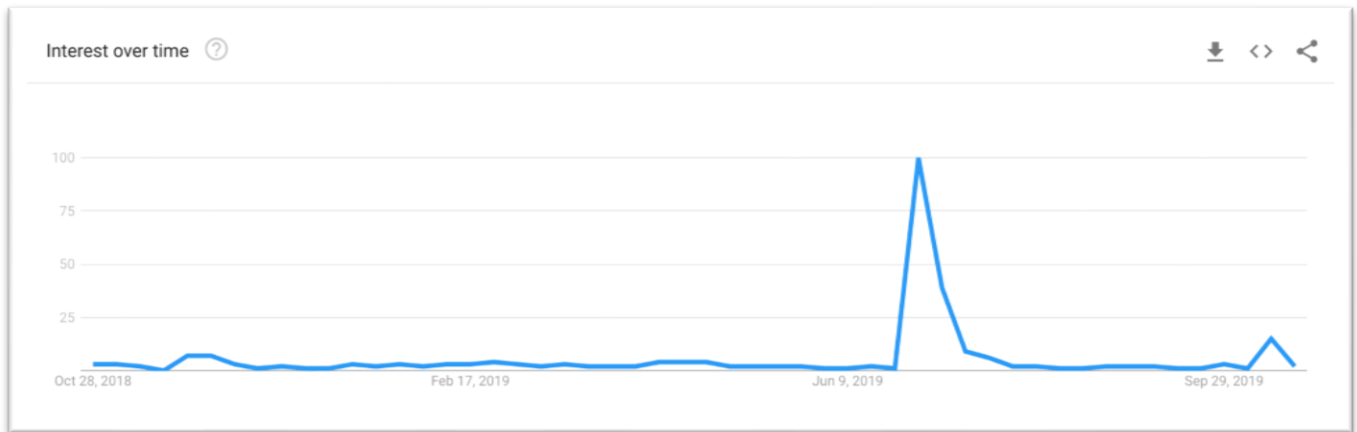
The earthquake victim has little time to read this webpage. They want to extract critical safety information as quickly as possible. Their patience and ability to parse text is likely impaired due to stress.

OVERVIEW

Different earthquake victims may wish to learn different things, such as:

- When to safely return home
- How to care for injured family members
- Who to contact for help

Our research indicates that the majority of users are “Earthquake Victims”. Below is a graph of the frequency users google the term “after earthquake” in California.



The graph shows a surge in search interest during and after the July 6th, 2019 earthquake. Users are **primarily finding the webpage during or after an earthquake has occurred.**

What should our users get from the page?

This page must balance the interests of readers interested in earthquake preparation and those immediately affected by earthquakes. This means providing:

- Clear, concise steps on what to do after the disaster
- Easy to navigate sections with the relevant information
- Alternative resources and links to further reading

CURRENT LAYOUT

While the page currently provides useful advice for people affected by earthquakes, it could be better formatted to help readers extract crucial information. While the writing is clear and easily understandable, the layout could be improved to be more accessible to audiences under pressure.

Below, we list a summary of the page's current strengths and weaknesses.

Strengths	Weaknesses
Accurate and pertinent information. Compared to peer websites, the SSC's guide has very helpful advice.	Lack of headings creating a "wall of text". This makes it hard for users to find relevant information.
Clear, active writing allows the audience to quickly digest and remember key information.	The bullet-points are too long and wide , making it challenging for readers to digest ideas.
Bullet points separate key concepts and improve readability.	Whitespace, bold font, and hyperlinks are needed to make the text attention grabbing and scannable.
Directly addresses the audience , clarifying actions and improving readability.	Includes duplicate points , adding to the length of the text.

By applying simple principles of web design and plain writing, we can not only fix these weaknesses but also highlight the current strengths of the webpage. We recommend the following three revisions:

1. **Use headings and sections**
2. **Incorporate stylistic elements**
3. **Improve concision**

We expand on these principles in the following three recommendations.

RECOMMENDATION I

1. Improve Site Navigation with Headings and Sections

The federal government's Plain Language Guidelines mandate **writing for separate audiences in separate sections**. The federal guidelines warn that addressing multiple audiences in the same section will confuse readers and make it challenging for them to find pertinent information.

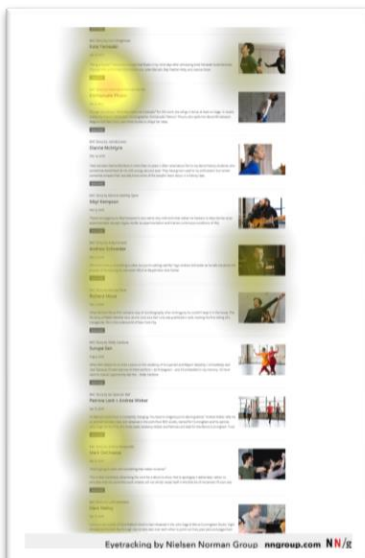
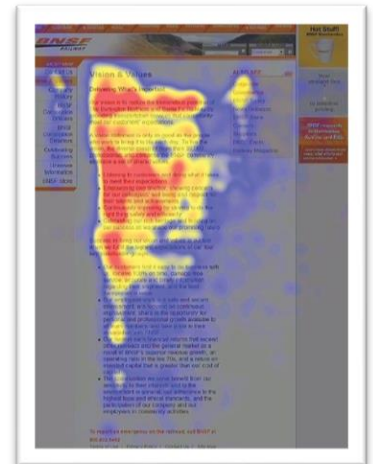
The current SSC webpage addresses all audiences in one section. "Earthquake Victim" readers, who have little time to find the information relevant to their specific need, may fail to locate specific advice for their needs. Since these victims do not have time to read a long, bulleted list, we must assist them in scanning as effectively and accurately as possible.

Web usability researcher Jakob Nielsen has shown that **headings and sections help different audiences find information relevant to them**. (Follow up [here](#) for more information about Nielsen's research).

The F-Pattern

When readers are confronted with a wall of text, they trend towards scanning for relevant information using an F-shaped pattern. The image shows eye-tracking data of users trying to find information from a webpage.

This means that readers progressively look at less and less of each line. With the current length and density of the page, readers resort to this inefficient method of scanning, and will skip lots of important text.



The Layer Cake

Layer cake scanning is when users primarily fixate on headings and subheadings.

Readers are only able to scan in this way if headings are plentiful and descriptive.

By giving your audience more frequent and descriptive headings, you allow them to more quickly identify the information relevant to their situation.

We recommend formatting so that readers can parse text with the layer cake pattern.

RECOMMENDATION I

Current Design: *At the moment, the webpage features two headings. The two headings are very similar, so audiences are likely to skip the disclaimers under the first heading and go directly to the long list of bullets. The headings do not help audiences find specific information.*

What to do After an Earthquake

Emergency Information to prepare and protect yourself, your loved ones, and your property after an earthquake

[Prepare](#)

Where to find current information after an earthquake? [USGS Hazard Program](#)

Earthquakes can occur in California at any time... without notice. Knowing what to do can reduce the dangers and make a big difference in how an earthquake will affect you and your home. Adults and children should discuss what to do if an earthquake occurs.

What do to immediately after an earthquake

- ▶ Check yourself for injuries. Often people tend to others without checking their own injuries. You will be better able to care for others if you are not injured or if you have received first aid for your injuries.
- ▶ Protect yourself from further danger by putting on long pants, a long-sleeved shirt, sturdy shoes, and work gloves. This will protect you from further injury by broken objects.
- ▶ After you have taken care of yourself, help injured or trapped persons. If you have it in your area, call 9-1-1, then give first aid when appropriate. Don't try to move seriously injured people unless they are in immediate danger of further injury.
- ▶ Look for and extinguish small fires. Eliminate fire hazards. Putting out small fires quickly, using available resources, will prevent them from spreading. Fire is the most common hazard following earthquakes. Fires followed the San Francisco earthquake of 1906 for three days, creating more damage than the earthquake.
- ▶ Leave the gas on at the main valve, unless you smell gas or think it's leaking. It may be weeks or months before professionals can turn gas back on using the correct procedures. Explosions have caused injury and death when homeowners have improperly turned their gas back on by themselves.

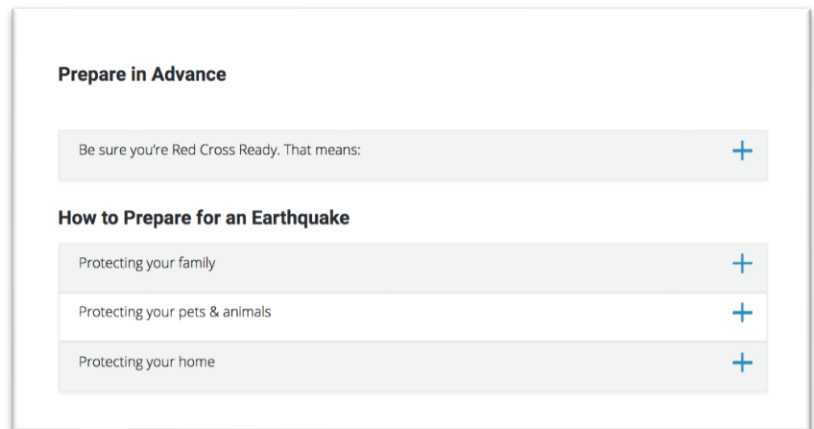
This design could be improved by:

- Adding **headings** and **sections**
- Guiding audiences to alternative resources for **what to do before and during an earthquake**
- Addressing audiences with different requirements in separate sections, starting with **the audience with the most urgent need**

RECOMMENDATION I

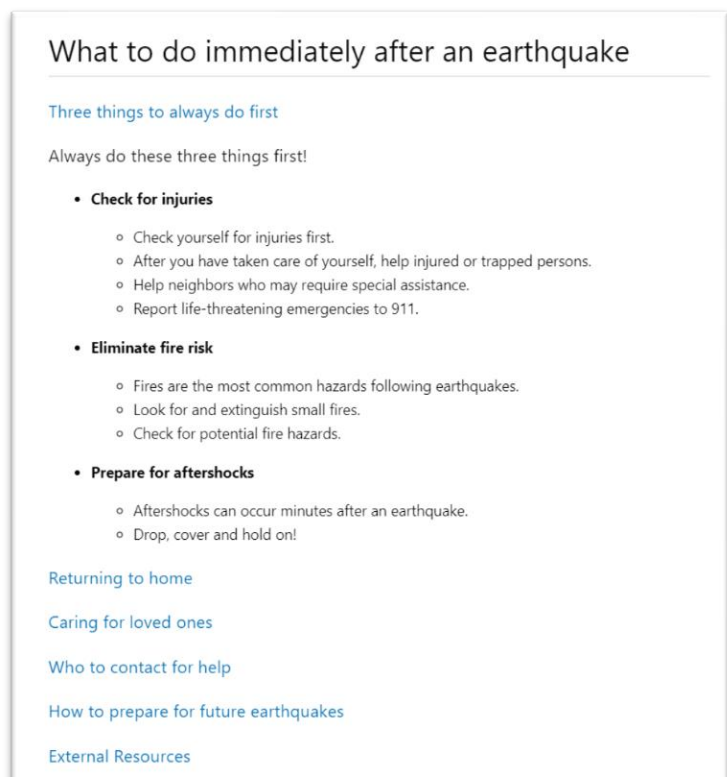
Alternative Model

Here is an example of how the [Red Cross](#) embraced these principles. Not all audiences viewing the resources have the same goals. Therefore, dividing information into **sections with separate headings and menus** helps readers find the information that pertains to them without parsing a wall of text.



Proposed Revision

Here, a clear and distinct heading immediately informs the reader of steps to take. Like the Red Cross website, different audiences are individually addressed with clear headings. At the bottom, a heading clearly guides readers to alternative resources. The reader can scan and immediately find the information relevant to them.



RECOMMENDATION 2

2. Help Your Readers Scan with Whitespace, Bolded Text, and Color

When readers use the web, they **scan sections of body text**, rather than reading each word, and look for **keywords and relevant subjects**.

Our “Earthquake Victim” reader is under a great deal of stress, without the patience to parse dense texts for relevant information. Therefore, it is important to not only include headings, but also use visual formatting to distinguish important keywords.

Jakob Nielsen shows that readers find it easier to extract information from text when writing is balanced with whitespace. Visually distinguishing important points with **bolded text**, **color**, and **hyperlinks** makes it easier for readers to find relevant points and remember information.

What do to immediately after an earthquake

- ▶ Check yourself for injuries. Often people tend to others without checking their own injuries. You will be better able to care for others if you are not injured or if you have received first aid for your injuries.
- ▶ Protect yourself from further danger by putting on long pants, a long-sleeved shirt, sturdy shoes, and work gloves. This will protect you from further injury by broken objects.
- ▶ After you have taken care of yourself, help injured or trapped persons. If you have it in your area, call 9-1-1, then give first aid when appropriate. Don't try to move seriously injured people unless they are in immediate danger of further injury.
- ▶ Look for and extinguish small fires. Eliminate fire hazards. Putting out small fires quickly, using available resources, will prevent them from spreading. Fire is the most common hazard following earthquakes. Fires followed the San Francisco earthquake of 1906 for three days, creating more damage than the earthquake.
- ▶ Leave the gas on at the main valve, unless you smell gas or think it's leaking. It may be weeks or months before professionals can turn gas back on using the correct procedures. Explosions have caused injury and death when homeowners have improperly turned their gas back on by themselves.
- ▶ Clean up spilled medicines, bleaches, gasoline, or other flammable liquids immediately. Avoid the hazard of a chemical emergency.
- ▶ Open closet and cabinet doors cautiously. Contents may have shifted during the shaking of an earthquake and could fall, creating further damage or injury.
- ▶ Inspect your home for damage. Get everyone out if your home is unsafe. Aftershocks following earthquakes can cause further damage to unstable buildings. If your home has experienced damage, get out before aftershocks happen.
- ▶ Help neighbors who may require special assistance. Elderly people and people with disabilities may require additional assistance. People who care for them or who have large families may need additional assistance in emergency situations.
- ▶ Listen to a portable, battery-operated radio (or television) for updated emergency information and instructions. If the electricity is out, this may be your main source of information. Local radio and local officials provide the most appropriate advice for your particular situation.

BEFORE: Here is what the page currently looks like. A wall of uniform text makes it more challenging for readers to find the most important points for them.

What to do immediately after an earthquake

- Check yourself for injuries. Often people tend to others without checking their own injuries. You will be better able to care for others if you are not injured or if you have received first aid for your injuries.
- Protect yourself from further danger by **putting on long pants, a long-sleeved shirt, sturdy shoes, and work gloves**. This will protect you from further injury by broken objects.
- After you have taken care of yourself, **help injured or trapped persons**. If you have it in your area, [call 9-1-1](#), then give first aid when appropriate. **Don't try to move seriously injured people** unless they are in immediate danger of further injury.
- **Look for and extinguish small fires**. Eliminate fire hazards. Putting out small fires quickly, using available resources, will prevent them from spreading. Fire is the most common hazard following earthquakes. Fires followed the San Francisco earthquake of 1906 for three days, creating more damage than the earthquake.
- **Leave the gas on at the main valve**, unless you smell gas or think it's leaking. It may be weeks or months before professionals can turn gas back on using the correct procedures. Explosions have caused injury and death when homeowners have improperly turned their gas back on by themselves.
- **Clean up spilled medicines**, bleaches, gasoline, or other flammable liquids immediately. Avoid the hazard of a chemical emergency.
- **Open closet and cabinet doors cautiously**. Contents may have shifted during the shaking of an earthquake and could fall, creating further damage or injury.
- **Inspect your home for damage**. Get everyone out if your home is unsafe. [Aftershocks following earthquakes can cause further damage to unstable buildings](#). If your home has experienced damage, get out before aftershocks happen.

AFTER: Here is a model of the exact same text, without any edits. Note how the use of colors, bold, and whitespace make it easier for readers to extract the key points of the text.

RECOMMENDATION 3

3. Improve Concision by Removing Duplicates and Focusing on Action

Since most of our audience is under significant pressure and has little time, it is crucial to make points as short and direct as possible. A wall of text will either discourage users to **not read the text to completion** or **find an alternate webpage**.

Jakob Nielsen's research group found that although a bulleted list can help readers scan, when bulleted lists are long and wide, readers will revert to an F-shaped reading pattern (not reading individual points to completion). From their study, "a sample Web site scored 58% higher in measured usability when it was written concisely."

Joseph Williams, a renowned professor at the University of Chicago, recommends analyzing the **first seven or eight words in each sentence** to see if your writing is clear to the reader. Shortening individual bullet points and the width of the text will help audiences read individual points to completion and improve usability.

WHAT TO DO IF YOU BECOME TRAPPED NEAR A WILDFIRE

While in your vehicle:

- Stay calm.
- Park your vehicle in an area clear of vegetation.
- Close all vehicle windows and vents.
- Cover yourself with wool blanket or jacket.
- Lie on vehicle floor.
- Use your cell phone to advise officials—call 911.



EXAMPLE: Here is an example of how readyforwildfire.org cut straight to the point so that panicked readers can quickly learn about what steps to take in a wildfire. Short sentences and direct points ensure readers read the webpage to completion.

While on foot:

- Stay calm.
- Go to an area clear of vegetation, a ditch or depression on level ground if possible.
- Lie face down, cover up your body.
- Use your cell phone to advise officials—call 911.



RECOMMENDATION 3

1. Focus on direct commands

Before: Check yourself for injuries. Often people tend to others without checking their own injuries. You will be better able to care for others if you are not injured or if you have received first aid for your injuries.

After: Check yourself for injuries. Do not check others first: you can better care for others if you are safe.

2. Remove information unhelpful to the audience

Before: Look for and extinguish small fires. Eliminate fire hazards. Putting out small fires quickly, using available resources, will prevent them from spreading. Fire is the most common hazard following earthquakes. Fires followed the San Francisco earthquake of 1906 for three days, creating more damage than the earthquake.

After: Fires are a common hazard following earthquakes. Look for and extinguish small fires before they become critical.

3. Eliminate redundant or contradictory points

Before:

- Leave the gas on at the main valve, unless you smell gas or think it's leaking. It may be weeks or months before professionals can turn gas back on using the correct procedures. Explosions have caused injury and death when homeowners have improperly turned their gas back on by themselves.
- Check for gas leaks. If you smell gas or hear a blowing or hissing noise, open a window and quickly leave the building. Turn off the gas, using the outside main valve if you can, and call the gas company from a neighbor's home. If you turn off the gas for any reason, it must be turned back on by a professional.

After:

- Leave the gas on at the main valve, unless you smell gas or think it's leaking. If you smell gas or hear a blowing or hissing noise, open a window and quickly leave the building. Turn off the gas, using the outside main valve if you can, and call the gas company from a neighbor's home. Do not turn the gas back on by yourself.

What to do immediately after an earthquake

Three things to always do first

Always do these three things first!

- **Check for injuries**
 - Check yourself for injuries first.
 - After you have taken care of yourself, help injured or trapped persons.
 - Help neighbors who may require special assistance.
 - Report life-threatening emergencies to 911.
- **Eliminate fire risk**
 - Fires are the most common hazards following earthquakes.
 - Look for and extinguish small fires.
 - Check for potential fire hazards.
- **Prepare for aftershocks**
 - Aftershocks can occur minutes after an earthquake.
 - Drop, cover and hold on!

Returning to home

- **Fires**
 - Fire is the most common hazard following earthquakes.
 - Remove fire hazards.
 - Putting out small fires quickly, using available resources, will prevent them from spreading.
- **Gas**
 - **Leave the gas on at the main valve**, unless you smell gas or think it's leaking. Explosions have caused injury and death when homeowners have improperly turned their gas back on by themselves.
 - Wait for a professional to turn gas back on using the correct procedures.
- **Home Safety**
 - **Clean up spilled medicines**, bleaches, gasoline, or other flammable liquids immediately.
 - **Open closet and cabinet doors cautiously**. Contents may have shifted during the shaking of an earthquake and could fall, creating further damage or injury.
 - **Inspect your home for damage**. Get everyone out if your home is unsafe. [Aftershocks following earthquakes can cause further damage to unstable buildings](#). If your home has experienced damage, get out before aftershocks happen.

Caring for loved ones

Who to contact for help

How to prepare for future earthquakes

External Resources

Improve Site Navigation with Headings and Sections

Help users find sections of pertinent information

- Put main ideas in **headings**
- Use a **layer cake design pattern** to capture the reader's attention
- Create **subsections** to provide more detail
- Link to **alternative resources**

Use Whitespace, Bolded Text, and Hyperlinks

Help users identify keywords and points to remember

- Important **keywords** should stand out as bolded text or colored links
- Whitespace makes the page easy to use and read

Remove Duplicates and Focus on Action

Keep it short to avoid intimidating your audience and improve usability

- Focus on **direct commands**
- **Remove information** unhelpful to the audience
- Eliminate **redundant** or contradictory points

About Us

We are students at Georgetown University and members of Georgetown Writing Solutions.

As part of Professor Lipscomb's writing class, we provide recommendations to state and federal agencies according to plain writing guidelines. We believe writing is an art, and today's digital age requires an adaptation of this art to the modern screen. With experience combining good writing, web and visual design, we have provided independent reports and audits for many clients.

Jerod Sun and Gavin Ramm, Georgetown University '23

Methodology

The suggestions made in this report combine our insight with three valuable resources:

1. Writing tips from *Style: The Basics of Clarity and Grace*, by Joseph M. Williams
2. Recommendations and reading styles from *How People Read on the Web: The Eyetracking Evidence*, produced by the Nielsen Norman Group.
3. Practices and guidelines from The Federal Plain Language Guidelines by the [Plain Language Action and Information Network](#).

We highly recommend consulting these sources for further detail.